WHAT IS CLAIMED:

1. A DNA construct comprising:

one or more operatively linked nucleic acid molecules, wherein the nucleic acid molecule encodes a serine proteinase inhibitor isolated from *Brassica oleracea* having antibiosis activity and

an operably linked to a heterologous DNA promoter and

an operably linked 3' regulatory region.

2. A DNA construct according to claim 1, wherein the nucleic acid molecule either: (a) has a nucleotide sequence of SEQ. ID. No. 1; (b) encodes a protein having an amino acid sequence of SEQ. ID. No. 2; or (c) hybridizes to at the DNA molecule having a nucleotide sequence of SEQ. ID. No. 1 under stringent conditions characterized by a hybridization buffer comprising 1M NaCl, 50 mM Tris-HCl, pH 7.4, 10 mM EDTA, 0.1% sodium dodecyl sulfate, 0.2% ficoll, 0.2% polyvinylpyrrolidone, 0.2% bovine serum albumin, 50 μm g/ml *E. coli* DNA at a temperature of 56°C.

3. An expression system comprising:

the DNA construct according to claim 1.

4. A host cell transduced with the DNA construct according to claim 1.

5. A host cell according to claim 4, wherein the cell is selected from the group consisting of a bacterial cell, a virus, a yeast cell, and a plant cell.

6. A host cell according to claim 5, wherein the cell is a plant cell.

7. A host cell according to claim 5, wherein the cell is a bacterial cell.

8. A transgenic plant transformed with a DNA construct according to claim 1.

9. A transgenic plant according to claim 8, wherein the nucleic acid molecule either: (a) has a nucleotide sequence of SEQ. ID. No. 1; (b) encodes a protein having an amino acid sequence of SEQ. ID. No. 2; or (c) hybridizes to at the DNA molecule having a nucleotide sequence of SEQ. ID. No. 1 under stringent conditions characterized by a hybridization buffer comprising 1M NaCl, 50 mM Tris-HCl, pH 7.4, 10 mM EDTA, 0.1% sodium dodecyl sulfate, 0.2% ficoll, 0.2% polyvinylpyrrolidone, 0.2% bovine serum albumin, 50 μm g/ml *E. coli* DNA at a temperature of 56°C.

10. A transgenic plant according to claim 8, wherein the plant is selected from the group consisting of Gramineae, Liliaceae, Iridaceae, Orchidaceae, Salicaceae, Ranunculaceae, Magnoliaceae, Cruciferae, Rosaceae, Leguminosae, Malvaceae, Umbelliferae, Labitatae, Solanaceae, Cucurbitaceae, Compositae, and Rubiaceae.

11. A transgenic plant seed transformed with a DNA construct according to claim 1.

12. A transgenic plant seed according to claim 11, wherein the nucleic acid molecule either: (a) has a nucleotide sequence of SEQ. ID. No. 1; (b) encodes a protein having an amino acid sequence of SEQ. ID. No. 2; or (c) hybridizes to at the DNA molecule having a nucleotide sequence of SEQ. ID. No. 1 under stringent conditions characterized by a hybridization buffer comprising 1M NaCl, 50 mM Tris-HCl, pH 7.4, 10 mM EDTA, 0.1% sodium dodecyl sulfate, 0.2% ficoll, 0.2% polyvinylpyrrolidone, 0.2% bovine serum albumin, 50 μm g/ml *E. coli* DNA at a temperature of 56°C.

13. A transgenic plant seed according to claim 11, wherein the plant is selected from the group consisting of Gramineae, Liliaceae, Iridaceae, Orchidaceae, Salicaceae, Ranunculaceae, Magnoliaceae, Cruciferae, Rosaceae,

Leguminosae, Malvaceae, Umbelliferae, Labitatae, Solanaceae, Cucurbitaceae, Compositae, and Rubiaceae.

14. A method of conferring resistance to insects to plants comprising:

transforming a plant or plant seed with the DNA construct according to claim 1 and

growing the transformed plant or plants produced from the seeds of a transformed plant under conditions effective to impart resistance to insects.

15. A method according to claim 14, wherein a transgenic plant is provided.

16. A method according to claim 14, wherein a transgenic plant seed is provided.

17. A method according to claim 14, wherein the serine proteinase inhibitor either: (a) has a nucleotide sequence of SEQ. ID. No. 1; (b) encodes a protein having an amino acid sequence of SEQ. ID. No. 2; or (c) hybridizes to at the DNA molecule having a nucleotide sequence of SEQ. ID. No. 1 under stringent conditions characterized by a hybridization buffer comprising 1M NaCl, 50 mM Tris-HCl, pH 7.4, 10 mM EDTA, 0.1% sodium dodecyl sulfate, 0.2% ficoll, 0.2% polyvinylpyrrolidone, 0.2% bovine serum albumin, 50 μm g/ml *E. coli* DNA at a temperature of 56°C.

18. A method according to claim 14, wherein the insects are selected from a group consisting of the orders of Lepidoptera, Coleoptera, Diptera, Homoptera, Hemiptera, Thysanoptera, and Orthoptera.

19. A method according to claim 14, wherein the insects are *Heliothis viresens* (tobacco budworm) or *Heliocoverpa zea* (corn earworm).

20. A method according to claim 14, wherein the transgenic plant is selected from a group consisting of Gramineae, Liliaceae, Iridaceae, Orchidaceae, Salicaceae, Ranunculaceae, Magnoliaceae, Cruciferae, Rosaceae, Leguminosae, Malvaceae, Umbelliferae, Labitatae, Solanaceae, Cucurbitaceae, Compositae, and Rubiaceae.

21. A method of conferring resistance to insects to plants comprising:

applying a serine proteinase inhibitor having antibiosis activity to a plant or plant seed under conditions effective to confer resistance to insects.

22. A method according to claim 21, wherein a plant is provided.

23 A method according to claim 21, wherein a plant seed is provided.

24. A method according to claim 21, wherein the serine proteinase inhibitor is isolated from *Brassica oleracea*.

25. A method according to claim 24, wherein the serine protease inhibitor has an amino acid sequence comprising SEQ. ID. No. 2.

26. A method according to claim 21, wherein the insects are selected from the group consisting of the Orders of Lepidoptera, Coleoptera, Diptera, Homoptera, Hemiptera, Thysanoptera, and Orthoptera.

27. A method according to claim 26, wherein the insects are *Heliothis viresens* (tobacco budworm) or *Helicoverpa zea* (corn earworm).

28. A method according to claim 21, wherein the plant is selected from a group consisting of Gramineae, Liliaceae, Iridaceae, Orchidaceae,

Salicaceae, Ranunculaceae, Magnoliaceae, Cruciferae, Rosaceae, Leguminosae, Malvaceae, Umbelliferae, Labitatae, Solanaceae, Cucurbitaceae, Compositae, and Rubiaceae.